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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,772	08/01/2003	Gregg Bernard Lesatr	200209214-1	3656

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EXAMINER

WAI, ERIC CHARLES

ART UNIT	PAPER NUMBER
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2195

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/632,772

Applicant(s)

LESARTR ET AL.

Examiner

Eric C. Wai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 08/01/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 are presented for examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

4. Claims 1, 11, 18, and 19 are rejected because the claimed invention, appearing to be comprised of software alone without claiming associated computer hardware required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e. a practical application).

5. Claims 1, 9, 12, and 17-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The current focus of the Patent Office in regard to statutory inventions under 35 U.S.C. § 101 for method claims and claims that recite a judicial exception (software) is that the claimed invention recite a practical application. Practical application can be provided by a physical transformation or a useful, concrete and tangible result. No physical transformation is recited and additionally, the final result of the claims is asserting a signal and determining whether to search, which is not a tangible result because no resulting

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action is performed. The following link on the World Wide Web is for the United States Patent And Trademark Office (USPTO) policy on 35 U.S.C. §101.

<http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf>

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following terms are not clearly understood:

i. Claim 5, lines 4-6 recite, "to deassert the match signal corresponding to each of the plurality of translation pairs if the purge signal does not match ... ". It is unclear why the logic is configured to desassert since the match signal is asserted only if the translation pair matches the purge signal in the first place (lines 2-3).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-4, 9, 11-12, and 17-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant's Admitted Prior Art (AAPA).

10. Regarding claim 1, AAPA teaches a processor purging system, comprising:

a translation lookaside buffer (TLB) having a plurality of translation pairs ([0001] lines 2-4);

at least one memory cache ([0001] line 2); and

logic configured to detect whether at least one of the translation pairs corresponds to a purge signal ([0005] lines 5-7, wherein logic inherently must be capable of detecting whether a translation pair corresponds to the signal),

the logic further configured

to assert a purge detection signal indicative of whether at least one translation pair corresponds to the purge signal ([0005] lines 7, wherein it is inherent that some indication must be made when determining which TLB translation pair matches the signal) and

to determine, based upon the purge detection signal, whether to search the memory cache for a translation pair corresponding to the purge signal ([0005]

lines 7-8, wherein the mini-TLBs and instruction queues are also purged as a result of the purge signal).

11. Regarding claim 2, AAPA teaches that the logic is further configured to purge the translation pair from the memory cache if the translation pair corresponds to the purge signal ([0005] lines 5-7).

12. Regarding claim 3, AAPA teaches that the memory cache further comprises an instruction queue ([0005] lines 7-8).

13. Regarding claim 4, AAPA teaches that the memory cache further comprises a mini-TLB ([0005] lines 7-8).

14. Regarding claim 9, it is the computer readable medium having a program claim of claim 1 above. Therefore, it is rejected for the same reasons as claim 1 above.

15. Regarding claim 11, it is rejected for the same reasons as claims 1-2 above.

16. Regarding claims 12 and 17, they are the method claims of claim 1 above. Therefore, they are rejected for the same reasons as claim 1 above.

17. Regarding claims 18-20, they are rejected for the same reasons as claim 1 above.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 5-8, 10, and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Matthews et al. (US Pat No. 6,560,689 hereinafter Matthews).

20. Regarding claim 5, AAPA does not explicitly teach compare logic configured to compare the purge signal with each translation pair and assert a match signal corresponding to each of the plurality of translation pairs if the purge signal corresponds to one of the translation pairs, the logic further configured to deassert the match signal corresponding to each of the plurality of translation pairs if the purge signal does not match one of the translation pairs.

21. Matthews teaches setting Purge Enable bits of the TLB entries when those entries match to a virtual address to be purged (col 7 lines 1-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to include setting a

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match signal to each translation pair that corresponds to the purge signal. One would be motivated by the desire to indicate which entries should be purged.

22. Regarding claim 6, Matthews teaches that the logic is further configured to collapse the match signals corresponding to each of the plurality of translation pairs into the purge detection signal indicative of whether at least one of the translation pairs corresponds to the purge signal (col 7 lines 1-2, wherein the input virtual address is compared against all CAM entries to generate match signals).

23. Regarding claims 7-8, Matthews does not explicitly teach that the logic comprises a plurality of tiered logical AND or OR gates configured to collapse the plurality of signals into the signal indicative of whether at least one of the translation pairs corresponds to the purge signal.

24. It would have been obvious to one of ordinary skill in the art to use logical AND and OR gates to collapse a plurality of signals together. It is well known in the art that AND and OR gates are the building blocks of logical circuits.

25. Regarding claim 10, it is the computer readable medium having a program claim of claim 5 above. Therefore, it is rejected for the same reasons as claim 5 above.

26. Regarding claims 13-16, they are the method claims of claims 1-2, and 5-6 above. Therefore, they are rejected for the same reasons as claims 1-2, and 5-6 above.


Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric C. Wai whose telephone number is 571-270-1012. The examiner can normally be reached on Mon-Thurs, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EW


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